APPENDIX A

List of Interviewees and Interview Guides

APPENDIX A

Interviewees

Frances Amison, former President, NAACP – Sandusky Chapter

Carol Andres, former president of Firelands Audubon Society

John Blakeman, retired Perkins High School science teacher and environmentalist

Janet Bohne, senior medical research scientist and member of Ordnance RAB

Mark Bohne, engineer and safety consultant and Citizen Co-chair of RAB

Tom Brink, retired NASA Plum Brook employee

Steve Casali, Director, Erie County Board of Health

Ron Cull, NASA employee, Glenn-Lewis

Fred Deering, farmer, Erie Metro Parks Commissioner and retired state representative

Joe DeRose, Superintendent, EHOVE Career Center

Richard Dolbeer, wildlife biologist, US Department of Agriculture (at Plum Brook)

Jim Dudinhofer, NASA employee, Glenn-Lewis

Linda Feix, Educational Director, Old Woman Creek State Nature Preserve

Marie Hildebrandt, former Perkins TownshipTrustee

Len Hormyak, retired NASA Plum Brook employee

T.J. James, science teacher at Briar Middle School (Perkins) and African American community member

Barbara Johnson, retired Executive Director of Erie Metropolitan Housing Authority, former Plum Brook Reactor Facility worker and African American community member (deceased)

Tom Junod, retired NASA Plum Brook employee

William Klein, NASA employee, Glenn-Lewis

Sue (Melching) Lang, elementary and middle school teacher, Perkins Public Schools

Jack Meyers, Erie County Sanitary Engineer (head of Environmental Services)

John Moldovan, Executive Director, Erie County Chamber of Commerce

Larry Pitts, Superintendent, Perkins, Public Schools

Ethel Roldan, retired Executive Director, Center for Cultural Awareness (Sandusky) and African American community member

Jack Ross, retired NASA Plum Brook employee and current NASA consultant

Reverend Dr. Rufus Sanders, Pastor of Emmanuel Temple Pentecostal Church, Sandusky Register columnist and African American community member

John Schaeffer, former Erie County Recorder

Larry Schroeder, NASA employee, Glenn-Lewis

Dean Sheibly, retired NASA Plum Brook employee

Max Shoff, retired Superintendent, Perkins Public Schools

Robert Speers, Associate Professor Emeritus, BGSU Firelands

Starr Truscott, former Erie MetroParksCommissioner, RAB member, retired NASA employee

Bill Walker, Director, Erie County Emergency Management Agency

Phyllis Wassner, City Clerk, City of Huron

Cecil Weatherspoon, owner of Flex Tech Services and African American community member

Gene Wright, Director, Old Woman Creek Natural Estuarine Research Reserve

Interview Guides
Plum Brook Station 1999 Community Interview Questions

General Awareness

[Note- Probes are only for interviewer to be aware of]

1. Are you familiar with Plum Brook Station located in Sandusky, Ohio?

   How/where have you heard of them?

2. Can you tell me about what they do there? [I*nterviewer will take note of references to NASA (Lewis) Glenn or other agencies and to see whether people understand relationship of NASA Glenn to PBS]* ***[Pending responses to above--read--Plum Brook Station is owned by NASA. It is a satellite facility of NASA Glenn Research Center located in Cleveland.]***

3. Are you familiar with work or activities that were done there in the past? *[Probe for nuclear reactor, former Army ordinance facility, etc.]*

   Do you remember how/where you learned this?

4. *[Pending response to* above] Are you familiar with any other federal agencies or groups that have done work there? *[Probe regarding Army Ordinance, etc.]*

5. Have you heard or read anything recently about PBS?

   What?

   Where?

6. Have you ever tried to obtain any information about PBS?

   About what?

   Who did you contact?

   Did the information received answer your questions?

7. How would you describe NASA PBS as a "neighbor"? *[Probe: Do you feel the activities at PBS have positively or negatively affected nearby communities? How?]*

8. Have you ever talked with other people (friends, family, neighbors) about PBS?

   What about?

9. How much do you think the community knows about PBS?

   Do you think there are some segments of the community/public that know more or less (are more or less aware)?

   What makes you think this?

10. **[Pending earlier Reponses]** While NASA still does a lot of work at PBS, there are some activities that they no longer do. PBS has two nuclear reactors which were used for experiments on the effects of radiation on materials used for space flight. Were you aware that NASA had two reactors at PBS that were shut down in 1973? *[Note tone of responses, facial expressions, etc. that might indicate surprise, concern]*

    Where/how did you hear/learn this information?

[Pending response, read the following]
Decommission
Plum Brook Station has two nuclear reactors built in 1960 which were shut down in 1973. All nuclear fuel was removed at the time the facility was shut down. NASA is in the process of decommissioning the two test nuclear reactors (which involves cleaning up facilities and areas of environmental contamination).

[Hand out fact sheet on decommissioning and ask person to read.]

[*I'd like to ask you to read this brief fact sheet and then I'd like to ask you several more questions].*

11. What questions, if any, do you have about NASA's plans to decommission those former reactors? *[Probe for specific questions/concerns and why]*
    Anything else?

12. What questions do you think community members (area residents) might have regarding the decommissioning of the Reactor Facilities?

13. Was there anything you read in the fact sheet that you have a question about or that needs clarification? **[Note any comments or questions].**
    Was the information in the sheet useful to you?

[The purpose of these interviews is to help NASA determine what questions people have and what their information needs are so we can best provide it and address people's concerns.]

14. What type of information would you like NASA to provide about the decommissioning process? *[Probe for: Current status? Health or environmental impacts? Transportation, economic, other]*

15. We know this is an area with a lot of seasonal residents; do you come in contact with many seasonal residents or tourists? Do you think that they are aware of Plum Brook Station? Why or why not?

16. Do you think their questions or concerns about decommissioning would be the same as permanent residents?

    If not, what do you think their concerns would be?

Sources of Information

[Now I'd like to ask you a few questions about where you get your information from]

17. Who do you rely on for information about environmental health and safety issues?[Probe: State or federal agencies- which ones- local government, universities or colleges, local governmental groups, other] Are there particular individuals or groups you rely on? What types of media (e.g. print, broadcast, TV) do you rely on?

18. Some people have mentioned NASA employees as a good source of information. What do you think about that? Do you think they 'd be considered credible sources? Why?

19. What organizations or individuals would you consider to be most credible when receiving information on environmental or health related issues? *[Probe: NASA, State Environmental Agency, NRC, other such as environmental group etc.?]*

    Are there any community leaders or officials you'd consider credible sources (*e.g. Board of Health, Emergency Planning Board, etc.)*?

Information Channels

20. What do you feel are the best ways to keep the community informed about NASA's plans for decommissioning? *[Probe: fact sheets, large meetings, small meetings, tours, newspaper, articles, "hotline", Web pages, other]. Any others?*

[Note: for interviewing of school teachers, principals and college or university professors find out about PTA (when they meet, how active is it, do they have a newsletter? Who are the leaders in it) Does the school have science, environmental activities e.g. earth day event, science fair etc.. For college: Projects students get involved in, any professors considered community leaders etc.]

21. How often would you want to receive information?

22. Are their individuals or organizations that could help distribute information from NASA to the public about the decommissioning?

23. What locations are best for the community to go to for written information? What about for Public Meetings?

Community Involvement

24. What type of involvement or input would you like to see the community have in NASA plans for decommissioning? **[Give example of Public Advisory Board as one option NASA is considering, see if it is appealing?]**

25. Can you see yourself getting involved?

26. If so, how? *[Probe: attending meetings, reviewing documents, other?]*

27. Can you suggest other individuals or groups that I should talk with?

Wrap-up

Is there anything else I should know that would help me in preparing the community relations plan?

Thank person for their time. Tell them the information they provided was extremely valuable.

Interview Guides
Plum Brook Station Community Interview Questions
For 2001 Interviews

General Awareness

[Note- Probes are only for interviewer to be aware of]

1. Are you familiar with Plum Brook Station, located in Sandusky, Ohio?

2. Can you tell me about what they do there? [Interviewer will take note of *references to NASA (Lewis) Glenn or other agencies and to see whether people understand relationship of NASA Glenn to PBS] [Pending responses to above note that Plum Brook Station is owned by NASA. It is a satellite facility of NASA Glenn Research Center located in Cleveland.]*

3. Are you familiar with work or activities that were done there in the past? *[Probe for nuclear reactor, former Army ordnance facility, etc.]*

4. How much do you think people who live in your area know about PBS?

5. Do you think there are some segments of the community/public that know more or less (are more or less aware)?

6. What makes you think this?

7. **[Pending earlier Responses]** While NASA still does a lot of work at PBS, there are some activities that they no longer do. PBS has two nuclear reactors, which were used for experiments on the effects of radiation on materials used for space flight. Were you aware that NASA had two reactors at PBS that were shut down in 1973? *[Note tone of responses, facial expressions, etc. that might indicate surprise, concern]*

8. Were you aware of NASA's plans to decommission the former Reactor Facility at Plum Brook Station?

9. [If yes, how were you made aware? Ask about anything they may have received in the mail, heard on the radio or read in the paper. **Pending what they say, ask if they ever received a mailing (e.g. invitation to the Open House). See if they got a magnet. Bring a magnet to anyone interviewed who did not receive one**.]

10. Have you been to any NASA event where decommissioning has been explained or discussed? [If so, which event? Probe for Plum Brook Open House, Community Information Sessions, Community Workgroup meetings.] What did you hear or learn?

11. (Where/how did you hear/learn the announcement on the NASA event)

[Pending response, read the following]

Decommissioning

Plum Brook Station has two nuclear reactors, which were built in 1960, and shut down in 1973. All nuclear fuel was removed at the time the facility was shut down. NASA is in the process of decommissioning the two test nuclear reactors (which involves cleaning up facilities and areas of environmental contamination).

[If the person is unaware of the decommissioning, hand out fact sheet on decommissioning *"We Want You to Know (June 1999)"* and ask person to read.]

[*I'd like to ask you to read this brief fact sheet and then I'd like to ask you several more questions].*

12. Was there anything you read in the fact sheet that you have a question about or that needs clarification? **[Note any comments or questions].** Was the information in the sheet useful to you?

13. What questions, if any, do you have about NASA's plans to decommission those former reactors? *[Probe for specific questions/concerns and why]*.anything else?

14. What questions do you think area residents might have regarding the decommissioning of the Reactor Facilities? [*Probe for any different comments and/or unique concerns]*.

[The purpose of these interviews is to help NASA determine what questions people have and what their information needs are so we can best provide it and address people's concerns.]

15. What concerns (if any) do you think others in your community might have about decommissioning?

16. What type of information would you like NASA to provide about the decommissioning process? *[Probe for: Current status. Health or environmental impacts. Transportation, economic, other]*

<u>Sources of Information</u>

[Now I'd like to ask you a few questions about where you get your information from]

17. Who do you rely on for information about environmental health and safety issues?*[Probe: State or federal agencies- which ones- local government, universities or colleges, local governmental groups, other]* Are there particular individuals or groups you rely on? What types of media (e.g. print, broadcast, TV) do you rely on? Are there any community media outlets, newsletters or other vehicles?

18. Some people have mentioned NASA employees as a good source of information. What do you think about that? Do you think they 'd be considered credible sources? Why?

19. What organizations or individuals would you consider to be most credible when receiving information on environmental or health related issues? *[Probe: NASA, State, Environmental Agency, NRC, others such as environmental groups, etc.?]*

20. Are there any leaders or officials community you'd consider credible sources. [If yes] Who would some of these people be?

Information Channels

21. What do you feel are the best ways to keep your community informed about NASA's plans for decommissioning? *[Probe: fact sheets, large meetings, small meetings, tours, newspaper, articles, "hotline", Web pages, other. Any others?]*

[Note: for interviewing of schoolteachers, principals and college or university professors find out about PTA (when they meet, how active is it, do they have a newsletter? Who are the leaders in it) Does the school have science, environmental activities e.g. earth day event, science fair, etc. For college: Projects students get involved in, any professors considered community leaders etc.]

22. How often would you want to receive information? How should it be provided (fact sheets, press releases etc.)?

23. How often would you like information once decommissioning begins?

24. What types of information would you like once decommissioning begins?

25. Are their individuals or organizations in the community that could help distribute information from NASA on the decommissioning?

26. What locations are best for the community to go to for written information? What about for Public Meetings? [If transportation of waste is mentioned, ask about a telephone update/call-in system. Do they think this would be a good idea? Would they use it?]

Community Involvement

27. What type of involvement or input would you like to see the community have in NASA's plans for decommissioning? [Give example of the Community Workgroup on decommissioning].

28. Can you see yourself getting involved in the Community Workgroup?

29. Can you suggest other individuals or groups that I should talk with?

Wrap-up

Is there anything else I should know that would help me in preparing the community relations plan?

Thank the person for their time. Tell them the information they provided was extremely valuable.

APPENDIX B

2002

Community Focus Group Report

FOCUS GROUP
Risk Communication and
Environmental Management Consultants

OCTOBER 2002

FINAL REPORT
SUMMARY & ANALYSIS OF FINDINGS

NASA PLUM BROOK STATION
COMMUNITY RESIDENT FOCUS GROUPS

Prepared for:

NASA Glenn Research Center
Plum Brook Station

Prepared by:

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INTRODUCTION

NASA has been conducting community outreach and public education around the decommissioning of the Reactor Facility at Plum Brook Station (PBS) since 1999, through a variety of outreach materials and activities. These activities and programs were predicated on a comprehensive Community Relations Plan (CRP), which was developed in 1999 and updated in 2001 following a series of one-on-one interviews with a broad range of community leaders.

To date, assessment of the effectiveness of community relations' activities has been based on participant evaluation of specific events and other informal feedback mechanisms. With Reactor Facility Decommissioning activities now underway, NASA wanted to take a more formal look at how community relations' efforts to date have been received by the community at large. As the primary contractor responsible for implementing NASA's Community Relations program, FOCUS GROUP conducted four focus groups with a sample of residents from the communities surrounding PBS on August 20 and 21 of 2002, in Sandusky, Ohio.

The focus groups were structured to get at several different aspects of residents' perceptions and opinions, specifically:

1. To determine the levels of awareness and knowledge regarding decommissioning and specific outreach activities;

2. To identify perceptions/concerns regarding decommissioning;

3. To determine what questions people have and their information needs;

4. To determine the level of trust in NASA as the entity responsible for decommissioning and as a source of information; and, finally,

5. To determine preferred methods of information dissemination/outreach for future activities.

The results of this qualitative evaluation will be used to update the CRP and make recommendations to NASA for future outreach and educational activities.

This report consists of a description of the methodology followed by a summary and analysis of the findings across all four groups, including similarities and differences, along with recommendations. The summary of findings and recommendations are followed by a complete report for each of the four groups, with substantial verbatim quotes from respondents (using transcript and videotape), findings and analysis. Please note that none of the verbatim responses were attributed to any individual. This is standard focus group protocol, in order to encourage complete candor in responses.

METHODOLOGY

Recruitment of Participants

Each of the four groups conducted represented a different community or cluster of communities around the facility. The composition of the four groups was intended to cover the communities of interest in Erie County that are included in NASA's outreach efforts. The geographic distribution of the four groups is as follows: Group 1 – Perkins Township (within a 2 mile radius of PBS); Group 2- Sandusky; Group 3 – Huron and Huron Township; and Group 4 – Milan, Berlin and Oxford.

Individuals were recruited **randomly** from these locations by telephone (by a subcontractor). Using a screener, individuals were disqualified if they were: employed by NASA; a NASA contractor at the Reactor Facility; or an elected government official (see screener in Appendix I). Participants were recruited to represent a cross section of demographics, including gender, age, income level, and education.

At the time of recruitment, participants were **NOT** informed of the sponsor of the groups or specific topic. Instead, they were told that the groups would be discussing issues of interest to the local community. Individuals were also asked what they saw as the issues of interest to the local community as part of the screening process. The recruiters recorded this information.

Forty-four individuals were recruited to participate in the groups and a total of 31 people (called respondents or participants throughout this report) participated in the four focus groups. Seven or eight people were in each group, which is standard for optimum dynamics, though the recruiters were told to recruit a minimum of 10 –12 individuals to account for anticipated no-shows.

Participant Profile

The sample included slightly more women than men, with an average age of about 46 (ages ranging range from 25-65), and an average income around $50K. All respondents were Caucasian, although the recruiters attempted to engage a more diverse group. The average education level was some college, with 7 high school level, 2 some college, 20 college and 2 postgraduate.

Nineteen percent of the respondents (6 of 31 people) were on the NASA PBS mailing list prior to attending the focus group, as indicated in the chart below

Profile Of Participants By Group

Group and Community	Men ~ Women	Avg. Age	Avg. Educ.	Avg. Income	On NASA previously on mailing list	Other
ONE Near neighbors, Perkins Twp, within 2 mile radius	1 ~ 7	53	College	$50-74 K	Four	Most income variation High education
TWO Sandusky	4 ~ 4	40	Some college	$50K	None	Youngest age
THREE Huron, Huron Twp	5 ~ 3	52	Some college	<$50 K	One	Lowest income
FOUR MIlan, Berlin, Oxford Twp	5 ~ 2	43	College	$75 K	One	Highest income High education

Focus Groups

The groups were held after working hours at a central location, and met for 90 minutes. Two facilitators moderated the groups, alternating on each night between Susan Santos, PhD, principal of FOCUS GROUP and project manager, and associate Ann Getman.

Schedule of Groups and Facilitators

	Tuesday 8-20	Wed 8-21
6:00 - 7:30 PM	**Group One** **Perkins Twp** Susan Santos	**Group Two** **Sandusky** Ann Getman
8:00 - 9:30 PM	**Group Three** **Huron, Huron Twp** Susan Santos	**Group Four** **Milan, Berlin, Oxford Twp** Ann Getman

The groups met in a conference room of the Holiday Inn Sandusky. Light refreshments were provided, as is standard practice for focus groups. Participants were also given an "incentive" fro their participation as is also standard practice to encourage attendance and indicate that participants' opinions and time, are valued.

All groups followed a standardized sequence of questions and interactions contained in the Moderator's discussion guide (See Discussion Guide,
Appendix 2), to ensure that the same process and language was used in stimulating discussion without presenting bias or leading the discussion to any specific conclusions. Some variations did occur, as explained below.

The guide covered four key areas:

- **Awareness and perceptions** of NASA and Plum Brook Station, and decommissioning of the Reactor Facility including both general unaided responses (spontaneously suggested responses without prompting or directing questions) and aided (focus in response to specific questions);

- **Response to information materials** produced by NASA to describe and explain the decommissioning process, exploring how they responded to the information, general perceptions and concerns and what questions were raised;

- **Community outreach** awareness and response to NASA's ongoing efforts to reach and engage the communities; and

- **Preferred sources of information and outreach methods**

Techniques used to move the discussion forward included specific questions in sequence, hand outs of material to read and discuss; discussion of outreach techniques; and a report card to grade NASA as a neighbor, at the outset of the group and again as a means of wrapping up the focus groups.

FINDINGS

The major findings of the four groups follow. Where important, similarities and differences between the groups are called out.

Throughout the report, key findings are indicated with an indent arrow, and appear in bold.

AWARENESS

Unaided Issues of Community Interest

Each group began with a brief warm-up discussion designed to put participants at ease and explain the purpose and process of the focus groups. These discussions included introductions (first name only) and a recall of what they had told the telephone recruiters were some of the issues of community interest on their minds, to see whether unaided references would be made to NASA PBS, the Reactor Facility, or other topics of relevance to the study. This brief discussion about local issues occurred, before the respondents were informed that NASA was sponsoring the research.

The most common top-of-mind issues were**:** education; infrastructure (roads, transportation, tax base); land use (urban sprawl and loss of farmland to development); environmental "problems" or issues and resultant impacts on public health; and Davis-Besse's nuclear reactor leak and shut down.

Davis-Besse was top of mind (unaided by several people in groups two and three, and an environmental concern to most of the people in those groups as well.

In Group One, Davis-Besse was not mentioned by name, but it was mentioned as an environmental concern in Group Four. Where it was mentioned early, it became a focal point for health and safety concerns initially transferred to NASA.

Davis-Besse was top of mind in two of the groups, where concerns about its safety, health impact and trustworthiness were raised in discussing NASA.

- **In two of the groups one or two people mentioned NASA unaided, and again in response to the question about environmental issues. Overall, NASA PBS was not top of mind for most of the respondents as a community issue.**

Environmental Issues

Following this general discussion respondents were then asked whether there were any environmental issues of interest in the community, again prior to being told that NASA was sponsoring the research.

The top-of-mind environmental issues mentioned most frequently were: water and air quality; contamination of the land and groundwater from landfill projects; impact of the quarry blasting on air quality; concern about manufacturing waste, and the First Energy Davis-Besse nuclear power plant

NASA (PBS) was again mentioned in two of the four groups without prompting; one of these was in the context of interest and curiosity more than concern, and the other was about the ordnance clean up at the NASA site.

The level of awareness of NASA's decommissioning at Plum Brook Station varied among the four groups. In three of the groups there were one or two people, who were very aware and at least somewhat to well informed and in one group about half the respondents were aware. However, the majority of people across all four groups had a low level of awareness and knowledge about NASA PBS or decommissioning. Those who were very aware had some direct interaction with NASA's community outreach efforts through the mailing list, open house tour, or community meetings.

Davis-Besse was an issue and concern in three of the groups, to varying degrees. The recent leak and shut down had a number of people worried about radiation and fearful for personal safety. As will be discussed later in this report, for several of the respondents, fears triggered by the Davis-Besse nuclear power plant carried over to concerns expressed about radiation at Plum Brook Station.

- **Davis-Besse came up several times in three of the groups, especially in Group Three. Because the event there was so recent and media coverage ongoing, some people's perceptions were influenced by or confused with their concerns regarding Davis-Besse, creating a 'fall-out'; factor and transfer of their fears to NASA PBS.**

Participant Action/Involvement

Respondents were asked if there was anything on their lists of issues that they had tried to get more information about, and how they'd gone about it, to determine the degree to which participant interests and concerns translated to more active information seeking or other action.

- **The great majority of respondents had not actively pursued information about their stated topics of environmental interest or concern. Although many of them tracked local issues in the newspaper, others relied on word of mouth from what friends, family and neighbors told them.**

The lack of follow-through was reinforced later in most of the groups. When they were asked whether they might take action to attend a meeting, or get more information about decommissioning by using the Website or hotline, the group was split between those who were interested and said they might actively seek out additional information and those who were interested, but noncommittal. This type of "split" is consistent with other research on public attitudes and awareness of environmental issues. It is important to note however, that current indications of interest may not reflect people's actual responses, and that people's stated stance on information and interest may change over time, depending on the extent to which they perceive an issue affects them directly.

Perceptions of NASA PBS

Respondents were asked specifically if they were familiar with NASA PBS, before information about decommissioning the Reactor Facility was introduced.

Across the four groups, the level of awareness was low, but one or two people in each group had direct personal knowledge about NASA:

- Three of the 31 respondents had been on a tour at NASA or been onsite and knew something about its research activities;
- One had been to a community meeting on decommissioning;
- Three or four recalled getting mail about NASA;
- One or two had a family member or close friend who had worked in NASA (one in the reactor lab and one in security); and
- One had heard a NASA speaker at this Kiwanis club.

- **In each group there were one or two respondents who were familiar with decommissioning.**

- **All were aware that NASA had a facility in the community, but most had a very low level of knowledge about NASA PBS.**

There were two common sources of confusion or misinformation in all four of the groups, as illustrated by quotes in the individual group reports: confusion with the ordnance clean up, and about whether NASA PBS is an active research station.

- **Many people with little knowledge of NASA were aware of the ordnance clean up, and confused that with decommissioning, or thought NASA was doing the ordnance clean up.**

- **The majority of respondents were not aware that NASA is an active station. Though a few were aware of its ongoing space research, most thought it was a closed facility.**

There was substantial confusion, with about a third of the respondents, between NASA's use of the land and its previous use as an **ordnance** facility. Most people knew that the site had been used as an ordnance production site or as an 'ammo dump', in WWII but seemed to think the former facility since, located at PBS, was part of NASA. Many were aware that there is an ongoing project at PBS to clean up the "site", but there were many assumptions and questions about it, including:

- Whether NASA is doing the ordnance clean up or leasing the land to someone else (there was no awareness that the Army Corps of Engineers was in charge of the clean up);

- Confusion and concern about what is stored in the bunkers onsite (munitions? Hot reactor waste? Reactor heads waiting to be re-activated?); and

- Reference to an exhibit about the 'groundwater' clean up at NASA seen in a restaurant and another at a country fair (referring, we assume, to outreach on the ordnance clean up information campaign.)

There was also a lot of confusion about whether NASA is an **active station** or has in fact been "decommissioned".

While some were familiar with NASA's research there such as "the gravity chamber", and a few others were aware of decommissioning, most were not aware that decommissioning refers ONLY to the Reactor Facility and that the remainder of PBS is active. Some of the comments that came up frequently reflecting this confusion include:

- The facility is pretty much closed down

- Security gate indicates something is going on there

- Reactor is stored onsite and may be reactivated

- NASA used to be active there but now the land is leased to some else

Report Cards: Grading NASA PBS as a Neighbor

After respondents were told that NASA was sponsoring the research, and that the purpose was to talk about decommissioning the Reactor Facility, they were given a report card and asked to give NASA a "grade" as a neighbor, based on what they knew, had heard, or thought.

People in all the groups discussed what the grades meant and decided that a "C" was a neutral grade. Those who knew little about NASA gave it a C (not bad, not great) or a B, explaining that in the **absence of negative information** from friends, and an **absence of negative news** stories in the papers, they assumed everything must be going pretty well. Some people compared NASA very favorably to First Energy (owner/operator of Davis-Besse), saying they didn't like the way they were surprised by the Davis-Besse nuclear leak (though none called it a crisis) and gave NASA credit for making the effort to keep people informed.

Overall, the grade for Question 4, **keeping the public informed** about important information, was the lowest grade, averaging between a high D and a low C in the initial round of grading. This is likely to be an effect of recognizing for the first time that they might be missing something that had not been on their radar screens, as all the other criteria, on all the groups, were graded a bit higher than this one. This is most significant because this criterion showed the greatest improvement in the second round of grading, as they learned more about NASA through the focus group.

- Participants gave NASA neutral to positive grades as a neighbor, even without much information to respond to. About two thirds of the respondents noted that they were giving NASA the benefit of the doubt in the absence of negative information.

Sources of Information

Respondents were given a brief, standard description (see moderator guide in Appendix 2), which covered several key facts about NASA PBS. Most of the people in all of the groups were unfamiliar with the information; in Group One, with four people on the PBS mailing list, only two were familiar with decommissioning. Those who were familiar cited a variety of sources of information:

While a few people had direct personal knowledge of NASA, most of the others had formed their impressions from a variety of sources, mostly word of mouth. These included friends and family who'd worked at NASA as employees or contractors, or who seemed

to them to be informed; and two people had read about the Community Information Session or Workgroup meetings in the newspaper calendar section.

- Although six of the 31 respondents were on the mailing list prior to the group, only half of these mentioned NASA as a primary source of information.

RESPONSE TO INFORMATION ABOUT NASA PBS DECOMMISSIONING PROJECT

Respondents were asked to review information provided by NASA and respond to it. The objectives were to identify their information needs, see what questions they had, given only a small and select amount of information to respond to, and to get a sense of how aware people in the various target audience segments of Erie County are based on outreach efforts to date.

Following the first two groups, a decision was made to give the last two groups different materials. Groups One and Two looked at two articles from the recent decommissioning **newspaper supplement**, and were asked to read:

- The lead article on Decommissioning Approved by NRC; and then
- The article on the back page on Safeguards for the Community and Workforce.

There were several reasons for the change. Based on the low level of awareness, it was felt that a more self-contained piece providing summary level information on decommissioning would be a more appropriate first introduction to stimulate discussion. Because some of the respondents in Groups One and Two were distracted by being told the information had gone out but they did not recall seeing it, they seemed to feel they were being told they "should have" seen it, which may have had a negative impact on their reaction to the material itself. In general, people are less tolerant of ambiguity or there own lack of awareness in the absence of the expectation that they "should have known."

In Groups Three and Four, respondents were given:

- Fact Sheet (We Want You to Know) from 1999, and then
- Letter to the Community from Tim Polich in the newspaper supplement.

Reaction to Information in Newspaper Supplement

Respondents in Groups One and Two had a lot of questions about the language, content and meaning of the information in the first article. Some people were able to accurately identify what they had learned from this article as: the fuel was removed; the materials are being shipped off-site and away from the area; the reactors were in 'safe dry storage;' and the decommissioning process is ongoing. While the material seemed useful to respondents, and answered some top of mind questions, in and of itself it was not sufficient to answer all their questions.

Many people also found the language too technical, and said it didn't read like '**plain English.**' In both groups this piece raised more questions than it answered, as is often the case when people are exposed to information for the first time. [Note: This article tended to have more of a regulatory feel to it than other pieces in the supplement, as it was intended to convey the status of the project].

The primary questions respondents raised after reading this article were:

- How much radiation was involved
- Where is the radiation- in what material onsite
- Where is material being stored, both offsite and onsite
- How safe or dangerous is the site now
- Who is monitoring the levels of radiation

Group One was confused about whether radioactive material was stored in the ordnance bunkers. Group Two (which had been very concerned about the Davis-Besse leaks) focused more on who was doing the monitoring of radiation levels and what a safe level of radiation is. They also openly expressed some distrust about whether government and business tell them the whole truth. In Group Two, a couple of people also acknowledged that the words 'nuclear' and 'radiation' scared them.

As expected, respondents in both these groups generally got more information out of the second article in the supplement, possibly because they had already read and discussed some questions and concerns, and possibly because it is less technical in tone and language. Other research supports people's preference and ability to understand and retain information that is presented in a narrative style as opposed to a more objective factual style. In both groups most people were able to identify more clearly what they learned, for example safeguards for the workers, emergency planning with other town officials, the process of monitoring, and reassurance that radiation levels were consistent with natural background levels. It is important to note that in both articles (to a greater extent in the second) people tended to recall information considered to be the "main messages" or facts of importance by the Decommissioning Team.

The questions raised after reading the second article included:

- What does low level radiation mean
- How is radiation measured
- What does natural background radiation mean
- What's a useful frame of reference for how much materials will be shipped out and how much radiation is in it
- Who is monitoring (checking) the people who monitor
- What is NASA planning to do with the site after it's cleaned up

- **As the respondents had their awareness raised by reading about and discussing decommissioning, they became more engaged, and had more questions about specific areas of interest.**

- **In both Group One and Two, respondents were about equally divided between people who felt their questions were being answered and those who did not; those who did not had other concerns unrelated to PBS (Davis-Besse, concern about terrorist attacks) that created barriers to receiving and attending to the information.**

- **In each group, as the awareness of those people who had not heard or known anything about decommissioning increased, there was some skepticism about whether NASA was telling them the whole truth, or that the project seemed bigger (and perhaps more dangerous) than they'd been led to believe. This skepticism came from individuals preoccupied with Davis-Besse and a perceived threat of radiation from its reactor.**

Reaction to Fact Sheet

Groups Three and Four reviewed the fact sheet from June 1999 as their first introduction to material put out by NASA. In general, they responded favorably to it, and more readily grasped the facts in context as compared to those in Groups One and Two, who had read less comprehensive pieces.

The questions raised after reading the fact sheets included:

- How do we/will we know if there is a leak
- What are the cancer/death rates associated with radiation
- Is the facility safe from terrorists
- Is there anything there that is dangerous to me

The majority of people in Groups Three and Four were more readily able to assimilate the information in the fact sheet and tended not to ask as many questions, but those they asked focused on personal safety, again in part a reaction to Davis-Besse. They also commented favorably on the layout of the information.

- **The visual presentation (layout of information) of the Fact Sheet, with main text, call outs, sidebars in the margin, allowed people to take in and recall a lot of different information more easily, and to see it in context of the main text.**

Reaction to Letter to the Community

Groups Three and Four were next given the "Letter to the Community" from Tim Polich in the newspaper supplement. This information was also well received by both groups. They had a fairly high recall of the content, and raised few questions for clarification after reading it. Again, this piece followed a more narrative format and personal style, which appear to raise retention and recall.

The questions raised after reading the letter included:

- How to measure levels of radiation
- How to frame the concept of the volume of materials being removed
- What's a background level of radiation (some compared it to radon)

There was some discussion in Group Four about the tone of the letter, and whether they preferred the "touchy-feely" style of the Letter to the Community or a more factual approach.

- **A balance is between hard facts and a more narrative style with active voice and a more personal feel seem to best meet people's needs for both information and affect. Because people have different learning styles it's important to continue a variety of materials presenting information in different ways, both in layering different levels of information and presenting it in a more accessible format.**

COMMUNITY RELATIONS/OUTREACH ACTIVITIES

The moderators handed out the Postcard Magnets, listing a variety of information sources, and used that as a launching point to discuss NASA's various outreach activities and materials. The discussion focused on whether they were familiar with any them, what methods best met their preferences, and whom they considered the most credible sources of information. In Groups One and Two, reference had been made to the postcard magnet having been mailed out to at least some individuals who lived near PBS. In Groups Three and Four, there was no mention of distribution at the start of the discussion.

- **Overall, the postcard magnet, the Website, the Community Workgroup and the Decommissioning Newsletter got the most positive response from the most people in all four groups.**

- **People were interested in both passive information that was layered (from which they could self select) and specific information they thought NASA should make available.**

Postcard Magnet

The **postcard magnet** was viewed as both a good resource and a positive message that NASA is trying to reach people in a lot of different ways, so consumers can decide what is most useful and convenient for them. Of the six people in the focus groups who were already on NASA's mailing list, about half remembered seeing the magnet, though none recalled keeping it posted on a refrigerator or cabinet. Of note is that a number of people in all the groups mentioned that a postcard like the one shown would be good to mail out to 'everyone'.

Website

The **Decommissioning Website** appealed to most people (almost all had access at home, work or through their kids) because it's not time-restricted, and they expected to find a lot of information there, and pick and choose their way through it. This appealed especially to people who didn't want "too much" information all at once, on the assumption that a) everything produced by NASA would be there, and b) it would be organized to make it easy to find and navigate what they wanted to know, pacing and choosing information themselves.

- **People viewed the Website as being the most dynamic source of information, assuming it would have regular, timely updates on the process, meetings and events. They also wanted (and expected) an option to send an e-mail with questions that would be answered within 24 hours, and receive a response.**

Community Workgroup

The **Community Workgroup** had enormous appeal because it mirrored a suggestion in three of the four groups that non-employees, outside "experts", or people from the community like themselves would have the most credibility, and would serve as a way to independently monitor the project. In every group most people recognized the names of some of the people in the Community Workgroup, and several people in each group personally knew a member or two from work, church, or the community. Overall, the members were seen as being credible community leaders, honest and accessible to the community. In spite of their familiarity with those listed Workgroup members – only one person had heard anything about decommissioning directly from a Workgroup member.

Respondents also liked the two-way nature of the Community Workgroup as a method of getting answers to their questions and keeping them informed. They were positive about the quarterly meetings being open to the public, and several indicated they might attend a meeting in the future.

- **People universally thought the Community Workgroup was a credible way of providing information and would also serve as a means of independent verification. The value of the Workgroup may be somewhat diluted by not having members be more active in their dissemination of information.**

Newsletter

The Quarterly Decommissioning Newsletter was not discussed in any detail in the groups, but was met with approval as a good idea and format. They liked the look of it and the level of information it contained. In each group, almost everyone picked up a copy or two of the newsletter on their way out, and 21 of 31 respondents signed up on the NASA PBS mailing list as they left the focus group (six were already on the mailing list, though they may not have known it).

- **The Telephone Hotline, Community Information Sessions and Community Information Bank got a more lukewarm receptions – although they still agreed these were positive for NASA to have.**

Hotline

The Information Hotline was generally though to be a good idea, although few people said they were likely to use it (versus the Website), or that they preferred interaction to a preprogrammed menu of choices. (This may just reflect disillusionment with customer service lines from utilities and large organizations that do not give people the information they want.) However, most liked the idea better

when they learned they could leave questions and get a response within 24 hours, and several mentioned it would be their first option to get information in the event of an emergency.

Community Information Sessions

There was little discussion about the **Community Information Sessions, although** several people had heard of or attended them. A few respondents also said they might make the effort to attend, and one said she'd rally her neighbors if it were in her own neighborhood.

The hotline and Community Information Sessions were raised toward the end of each group, and not discussed very fully; although they expressed a preference for interactive approaches, many did not understand that there are interactive too.

Community Information Bank

The Community Information Bank was familiar only to one very well informed respondent, and the rest had not heard of it. A few asked if the information were available at local libraries, but none seemed very interested in getting out to review the material. Again, this came at the end of the focus groups, and often followed respondents' stated preference to have information come to them.

How Much and Frequency of Information

- **In several of the groups, there was some discussion about how much information people need to know, with most feeling the information should definitely be made available and others wondering whether too much would scare or overwhelm "the public".**

- **People were clear that if a problem in Decommissioning were to arise, NASA would be better served by having had information go out on a regular basis. The desire to have NASA make information available was not necessarily linked to a personal decision to learn more. This seeming inconsistency is consistent with other research that shows a disconnect between what people expect government and industry to tell them and what they believe is there responsibility to learn or take action.**

- **The process of learning about, discussing and having their questions heard about decommissioning did have an impact on respondents' perceptions of NASA and opinions about decommissioning, especially their perception that NASA was being proactive and open with a variety of information and methods to inform the public.**

A small number of people in each group clearly were interested in learning more and said they would speak with Community Workgroup people, go to the Website, and read the newsletter. Another small majority felt the information should come to them in the mail and they'd be more likely to read it.

This is consistent with the earlier finding that most people had not pursued issues they had cited as being of local interest at the start of the focus groups – and with a tendency among people who do not have well-formed opinions or prior beliefs about a topic or see it as personally relevant to seek further information or take action.

PREFERRED METHODS OF OUTREACH

- **While the respondents expressed interest in a number of the vehicles NASA has to keep them informed, they also suggested a variety of ways NASA could make the surrounding community more aware of the Reactor Facility Decommissioning.**

When asked what more or what else NASA could do to get information to the public about decommissioning, respondents had a number of creative ideas. The most popular of these (supported by the most people in each group) included broader newspaper coverage; outreach to the schools; billboards on Rt. 250 and Open Houses or tours of PBS.

- **Newspaper Coverage.** News stories, features and editorials about decommissioning were mentioned repeatedly by several different people in every group as a preferred way to keep people informed, give them different perspectives on the issues, and show them what leaders and other people in their community think about it. Several people in each group noted that they are unlikely to read the calendar section for meeting notices, but a news story would more likely turn them out for meetings. Note: in spite of this, people did not recall the coverage that occurred following the media tour suggesting again that messages need constant reinforcement and that even with the recent events concerning Davis-Besse, decommissioning has not created widespread public fear or concern.

- **Working With Schools.** In three of the groups, several people suggested, and a majority supported, **educating kids in school** and sending materials home with them as a way of reaching them and their parents, because they read what their kids bring home. This was a very well received idea and even those whose kids are through school thought it would engage more parents if they got the information through the schools. This finding is consistent with other research that shows schools and educating children are an effective means of getting people to attend to information.

Several respondents suggested that NASA speakers could address school classes, and one in Group Three suggested that news coverage of the presentations that would show the community that NASA is reaching out.

- **Annual Open Houses**. Several people suggested that annual open houses would be a good idea, and that a tour of the facility with workers would put it in perspective. In spite of earlier preferences for an independent verification, many of the people in each group seemed to feel that NASA employees would be credible sources, and that talking with them on-site might go a long way in reassuring them that the site is safe and well monitored.
- **Billboard**. In several of the groups, the suggestion was made to raise visibility with a billboard on Route 250 near the PBS turnoff, just to tell people they can get their questions answered by calling or visiting the Website. Because there was a relatively low level of awareness of either the Website or hotline, people felt NASA needed to better advertise the availability of these information sources.

- **Direct Mail.** Direct mail coming to their homes was mentioned frequently, though there were two schools of thought: one, that if they recognized materials as being part of NASA's Decommissioning campaign (logo, standard colors, and layout) they would read it, others saying they don't distinguish mush between junk mail and direct mail.

- **Public Service Announcement (PSA) Campaign.** A few people made the suggestion that a PSA campaign covering in newspapers, radio and television PSA's would have a good impact and reach a lot of people.

- Newspaper Supplement. Respondents had mixed reaction to the newspaper supplement, possibly because it had appeared in local papers and none recalled seeing it, while they found the information in it useful, several people suggested it was not as effective for them as news coverage and direct mailings.

MOST CREDIBLE SOURCES

There was a wide variety of opinion about who was considered a credible source of information on decommissioning. Credibility meant different things to different people, including who knew the most, who could communicate it best, who was most trustworthy and who was most believable. Group reaction is consistent with national survey findings and research on source credibility.

The one thing everyone agreed upon was the value of people who are objective independent and (constructively) critical about nuclear issues as people they could trust. The Community Workgroup appeared to meet all those criteria.

- There was a lot of general skepticism expressed about government and big business giving people the whole truth in a timely manner. Much of it can be attributed to a feeling expressed in three of the groups that Davis-Besse had lied by omission about problems and risks of a nuclear reactor, and some concern about protecting against radiation leaks due to terrorist attacks.

- There were many people who **trusted NASA** in part because of past performance and because it hadn't been in the news with anything negative.

- While the majority of respondents felt NASA is credible, some felt that employees might be more so than management, while others felt management had the best understanding of what was going on.

REPORT CARD- FINAL GRADING OF NASA

Respondents were asked to give NASA a final grade as a neighbor at the end of the focus groups. While the first round of grades provided insights into unaided perceptions, the final round shows overall whether groups learned or changed their opinions once information was shared and people were made more aware of all that NASA was doing to communicate with the public.

- The process of learning about, discussing and having their questions heard about decommissioning did have an impact on respondents' perceptions of NASA and opinions about decommissioning, especially their perception that NASA was being proactive and open with a variety of information and methods to inform the public.

Overall, grades went up on the second, final grading, in all the groups: significantly in three groups, and slightly in one group, as illustrated in the following chart.

In the following summary of grading, the grades represented:

A = excellent; B = very good; C = Not great, not bad; D = not very good; and

E = terrible

Summary Of Grades Given In First And Second Grading

Group	As	Bs	Cs	Ds	Es
One					
1st round	0	9	21	5	0
2d round	0	9	24	5	0
Two					
1st round	8	9	15	5	0
2d round	8	18	7	4	0
Three					
1st round	3	18	14	3	2
2d round	15	14	11	0	0
Four					
1st round	12	12	8	0	0
2d round	14	17	4	0	0

Average Grade Changes Per Question By Group

Grading Criteria	Group One	Group Two	Group Three	Group Four
Q1: Safeguarding health	C C	C B-	C+ B+	B B
Q2: Safeguarding environment	C C	B B	B- B+	B B+
Q3: complying w environmental regulations	C C	B B+	B- B+	B B
Q4: Keeping the public informed	C- C-	C- C	C- B+	C+ B+
Q5: Being a good neighbor	B+ B+	C B+	B- B+	B+ B+

Key Questions for NASA

At the end of the focus groups respondents were asked what one question they thought was most important for NASA to address, or what one thing they would most like to say to NASA.

- What is a safe level of radiation/ How safe are we/is there danger (9)
- What is the status of the project; where are we, what's next (3)
- What will the final results be (how clean and safe will the land and community be) (5)
- Be honest, keep us informed, keep information flowing, (5)

CONCLUSIONS AND RECOMMENDATIONS

Based on the key findings identified in this report, the following general conclusions can be drawn:

- **NASA PBS and environmental issues are generally not top of mind with the public. While some people believe the absence of negative information is a good sign, others find it raises suspicion and allows spill over of concern and doubt attached to other issues such as Davis-Besse. NASA should be prepared to keep information on decommissioning updated and available and remind people occasionally where to get it.**

- **People have different learning styles, and they need and want different levels of information and have varying preferences for the best way to present the information. Some prefer factual style, some narrative style, and some a more personal voice, such as a letter.**

- **Overall awareness of decommissioning is low. Once aware of decommissioning, people's interest heightens and follows the normal issue development curve from awareness to concern to increased knowledge to decision to seek further information or take action. People need to digest information in stages and get their questions asked (even if not answered) before they can take in more.**

- **NASA's decommissioning information is not processed in a vacuum. Information on decommissioning must be differentiated it from other events that will have impact on general perceptions of safety, honesty, and risk.**

- **The Erie County community is similar to the broader general public in that the primary way people get information is through the news media and their more informal communication networks of neighbors, co-workers, friends and family.**

Recommendations

Continue and Reinforce Ongoing Efforts

1. **Efforts to date have had some positive impact and confirm the strategy that multiple channels are needed to reach a broad and geographically dispersed audience.** Even though half of Group One was on the mailing list, they did not exhibit more awareness or stronger opinions compared to those who live further out from PBS. There were one or two people in each group with a good to high level of knowledge, some with none, and some with misinformation, typical of a standard bell curve of where people fall both in knowledge and opinion in a general population.

2. **Maintain a variety of information outreach efforts in a steady stream:** ongoing information and outreach will expand the knowledge of people already reached (aware) and will bring more people into the information pipeline. Continue to **put out a variety of kinds and formats of information** to reach diverse audiences with essentially the same information.

3. **Utilize the Community Workgroup more fully:** in terms of providing an independent flow of information to the community at large. Workgroup members should be actively encouraged and provided support as needed to move from being more passive sources of information just responding to questions asked by them of the public, to more active by proactive dissemination of the information they have learned. Further, NASA needs to increase outreach to raise the visibility of this group, as they are well known and respected individuals. This might include supporting people to speak about NASA PBS decommissioning project at public forums, public affairs programs, with newspaper reporters, on radio talk and news shows, etc.

4. **Continue to provide a variety of formats for how information is presented to respond to varying preferences for information such as:**

- **Plain English**- define terms; avoid regulatory terminology, and offer a relevant standard for comparison;

- **Narrative style** as well as providing factual information;

- **Visually linked family of publications** with NASA logo, consistent colors and styles (headline, subheads, call outs); and

- **Graphically interesting** - break up information with call-outs, insets, lists of graphics to help people capture different levels of information- makes it easier to scan and digest (fact sheet, newsletter less dense, more inviting than Supplement: supplement copy too dense to read easily, not enough visual variety and place markers)

5. **Restate and reinforce messages delivered early on in the educational outreach process and continue to track issues and develop appropriate messages/materials that may influence public knowledge and perceptions of decommissioning. NASA needs to differentiate the**

PBS decommissioning project clearly in two areas that are top of mind with the public. First, from the ordnance clean-up project. Secondly, the recent events at Davis-Besse have raised some concerns that all reactors are unsafe, and there is an opportunity to reassure the public on the safeguards NASA is undertaking.

6. **NASA needs to be more proactive in giving out messages that PBS " Is alive and well" and an active, vital part of NASA**. The low level of awareness of PBS in general and confusion over its status supports this recommendation. This has the further benefit of giving NASA overall more credibility and more specifically to the decommissioning project. Further, NASA needs to actively distinguish between the ordnance clean up by USACE and Reactor Facility decommissioning by NASA - before the trucks begin to roll.

7. **Continue but expand the use of direct mail**, which does have a positive impact on perceptions and opinions. NASA needs to consider expanding its mailing list from ½ mile radius to 2-mile radius, both to boost recognition and recall, and to reach the circle of influencers of near neighbors, whose opinions affect them through word of mouth.

8. **Continue to update the Website frequently:** it is viewed as a dynamic source of information**.**

New Ideas

1. **NASA should prepare a crisis communications plan to compliment the decommissioning specific emergency response plan** (lists of whom to call, key messages, etc.) if outside events impact negatively on perceptions of NASA PBS or Reactor Facility Decommissioning. Key communicators should be trained, and the plan revisited at least annually to update and refresh information.

2. **If NASA wants to increase general public awareness, it needs to be more proactive in managing news with outreach to press**. This may include editorials, feature stories, news articles as well as more public service announcements, and use of radio and cable TV in addition to print media like daily and weekly newspapers**.** The support of the local area news media is key in reaching community members, as these respondents rely on the media not just to keep them informed but also to let them know when they need to be alert to problems. An integrated media outreach strategy should consider:

    a. Editorial briefings with editors, key reporters
    b. Public affairs panel discussions and features
    c. Coverage by more media of Community Workgroup meetings
    d. Build relationships with the press by putting them in touch with independent experts, ambassadors, and neighbors for a robust perspective on the project.
    e. Create a news bureau (accessible facts and factoids they can use weekly or monthly to educate themselves and the public in plain English

3. **Develop additional educational materials about radiation** that create a frame of reference that people can understand, such as a way to relate safe levels of radiation and natural background

radiation levels to something with which they are familiar, like radon or comparable exposures but be careful of comparing involuntary to voluntary risks and other risk perception issues. Consider a series of articles in the Newsletter and also fact sheets and web-based material as part of the education effort.

4. **Integrate the outreach with a public information campaign with a unified message, repeated in multiple media (print, broadcast, cable) and more fully utilize existing communication networks of local community organizations.** People have busy lives and there is significant competition for both their attention and time. While project specific outreach is important (e.g. Website, CIS), people are more apt to attend to information that comes to them from other organizations they already attend to such as schools and local community groups. This could include more stories (informational and events oriented) for community organization newsletters or Websites; more NASA speakers and even displays at local venues (malls, libraries, schools). More active outreach via these mechanisms is warranted.

5. Focus outreach efforts on the schools which area residents see as an important way of reaching the adult population and provides the additional benefit of educating school age children. Focus on grades 4-8 to target parents.

6. On the Website add a mechanism for people to leave questions and get response.

7. Consider another mailing of the postcard magnet including the hotline number but increase the size of the mailing to cover a broader area.

NASA PBS REACTOR FACILITY COMMUNITY RESIDENT FOCUS GROUPS

August 20-21, 2002
Perkins/Perkins Township
Sandusky
Milan/Berlin/Oxford

MODERATOR DISCUSSION GUIDE Total time – 90 minutes

Overall Objectives:

- **Determine overall levels of awareness regarding decommissioning and, specific outreach activities**
- **Determine perceptions/concerns regarding decommissioning**
- **Determine what questions people have and their information needs**
- **Determine trust in NASA**
- **Determine preferred methods of information dissemination/outreach**

I. WELCOME AND INTRODUCTIONS (@10 minutes)

Objectives:

- Put participants at ease.
- Explain purpose and process.

A. Moderator welcomes participants:

Moderator will introduce herself, welcome participants, [invite them to enjoy refreshments if not served prior to group] and note that she is a researcher whose work involves talking to many groups of people to find out opinions and feelings on different topics.

B. Moderator explains purpose of focus groups and procedures:

Moderator: You'll recall that in the phone call inviting you to come tonight, the interviewer told you that we were going to talk about issues of interest in your community. We'll get into that discussion in a few minutes but before we do that, I'll tell you a little about how a focus group like this works.

Moderator will hold back on identifying the specific topic and sponsor for now if possible. The research sponsor will be identified later if the participants do not inquire about it here. It is preferable to see if participants initiate questions about the sponsor.

The screening questionnaire used to recruit participants identified only that the discussion would be about issues of interest in the community.

Moderator: Has anyone ever been in a focus group before? Can you tell us about it?

Moderator asks this question to help everyone feel comfortable with the idea of it. This portion of the discussion is important to building rapport with the participants and establishing the ground rules for the discussion.

> **Let me tell you how our discussion will work. I'm going to ask questions to launch our discussion, but please don't feel that you have to wait for me to call on you: you are welcome to speak up anytime. There are no right or wrong answers; I'm interested in your candid opinions and ideas and hearing about your perceptions. However, we have a lot to cover. Please don't be offended if I interrupt you to move on so I can hear from everyone**.

Moderator will explain audio/videotape and closed circuit observers:

As you can see from the equipment here, I am recording our discussion so that I do not have to take notes while we are talking. The recording will be used for research purposes, but will not be broadcast. This is the reason I have taken the liberty of using your first names only. Your last names will be retained only for accounting purposes.

In addition, a few of my colleagues working on this are in another room viewing the discussion via closed-circuit television.

> **Note:** Participants rarely object to either the observation or recording, and if anyone does, they are welcomed to leave. I have never personally had someone object.

Because we are taping, I must ask you to speak up at least as loudly as I do. I will give you this hand signal (motions upwards) **to indicate if you personally need to speak up. By the way, I will also give you this signal** (motions a "T" signal with hands) **if I must interrupt you to move on to someone else or to another topic.**

C. Self-introductions of participants:

Moderator: I'd like to find out a little bit about you now. Tell me where you live, and a little bit about what keeps you busy these days.

> **Note:** It is important to provide participants with an opportunity to "hear" themselves talking about something that does not particularly put them on the spot or make them feel that they are being tested.

II. DISCUSSION ABOUT LOCAL ISSUES: GENERAL AND ENVIRONMENTAL (@10 minutes)

Objectives: Determine whether unaided references are made to NASA PBS, the Reactor Facility, or other topics of relevance to the study in a brief general discussion about local issues and local environment.

A. General local issues and concerns:

Moderator: In the call inviting you to participate tonight, the interviewer asked your opinion about issues facing your community. Does anyone remember what you said about local issues that you think are important?

> **Note:** The purpose of this section is to determine if participants make any unaided references to environmental concerns; nuclear power plants or transportation issues, etc. Unless the participants mention these, the moderator will not introduce them at this time. Discussion will be brief. Anticipated items include: education, traffic, development, etc.

B. Awareness/concern about local environmental circumstances:

Moderator: [Adjusting wording to fit what participants have already mentioned...] **In other groups like this one, people have mentioned the environment as a local issue. What comes to mind about your community or this area when I say "environment"? (**Moderator will write responses on flip chart)

> **Note:** The moderator won't use the word "concerns" initially, as it tells participants that she expects them to have concerns. Moderator will see what people say unaided first about the environment. Typically, general public participants report both concerns about pollution as well as positive aspects of local environment: scenery, recreation, wildlife, etc.

The moderator will explore briefly what participants say. For example, if a participant says that "water pollution" comes to mind, the moderator may ask people about what type of water pollution (e.g., chemical spill, agricultural runoff, what type of chemicals, etc.); in what way it's a concern: health hazard, recreational impact, etc. and how participant(s) learned/heard about concerns they identify.

> The purpose is to determine if anyone makes unaided associations between the environment/health concerns and NASA PBS or the Reactor Facility before these are specifically introduced as a focus of discussion.

C. Participant action/involvement re: local environmental issues: [Time pending]

Moderator: Is there anything on the list that you have tried to get more information about -- say, by calling someone to ask a question or writing away for information?

> **Note:** Moderator will take care not to probe or explore participant comments in such a way that they feel like they **should** have done something about a concern or that what they have done is "wrong" or that activists are being singled out in some way. The probes will be to determine the nature and source of concerns and the perspectives of these particular participants.

III. AWARENESS/PERCEPTIONS OF NASA PBS (@15 minutes)

Objectives: Determine awareness of and impressions about NASA PBS before information about decommissioning the Reactor Facility is specifically introduced.

A. Participants' general awareness of NASA PBS:

Moderator: [Again, adjusting wording if NASA PBS has already been mentioned...] **It is common in groups like this for people to tell me about some of the same things you have told me. Now I want to ask you some questions about a specific facility located in this area. Are any of you familiar with Plum Brook Station located in Sandusky?**

Moderator will briefly explore participants' awareness with questions such as:

What can you tell me about it? (Probe to see if they associate the facility as NASA or other entity)

Moderator: From my interest in your impressions, it may not be a surprise that NASA is sponsoring this research to learn more about how people view it and how best to communicate information about an important project they are undertaking at Plum Brook Station.

Can anyone tell me about what they do there? *[Interviewer will take note of references to NASA (Lewis) Glenn or other agencies and to see whether people understand relationship of NASA Glenn to PBS]* [Pending responses to above] **Plum Brook Station is owned by NASA. It is a satellite facility of NASA Glenn Research Center located in Cleveland.**

What have you read or heard? Where?
Has anyone ever been there? What for? [probe if they had ever been on a tour and, if so when it was – what they thought of it, etc]

Do you have friends or neighbors who work or have worked there? What have they said?

Are you familiar with work or activities that were done there in the past? **[Probe for nuclear reactor,**

former Army ordnance facility, etc.]

Do you remember how/where you learned this?
Has anyone ever tried to get any information about NASA PBS? About what?
Did the information you receive answer your questions?

If I were to ask you to give NASA PBS a grade as a "neighbor", how would you compare them to other companies or government agencies that you're familiar with? What grade would you give them? (Moderator will call on a few participants) Why?

Note: Participants may not be familiar enough with PBS to feel that they have any opinion at all. The moderator will encourage participants to give a "grade" based only on what they have heard or feel they can guess. Pending time use report card instead of just asking for overall grade.

IV. RESPONSE TO INFORMATION ABOUT NASA PBS DECOMMISSIONING PROJECT

(@20 minutes)

Note: This section is the heart of the discussion and will yield key information for updating the community relation's plan and, to gauge how much our efforts to date have reached the broad "public".

Objectives:

- Determine awareness/perceptions of Reactor Facility and decommissioning process and whether there are concerns about it.
- Determine awareness of community outreach efforts in general and specific elements (e.g. Website, call-in line, supplement, workgroup meetings, etc.)
- Obtain reactions to draft displays (only if we have materials done by that point which may not be possible otherwise use material in supplement to gauge reaction.
- Assess interest in additional information, preferred channels and frequency.

A. General awareness of Decommissioning:

Note: The moderator will adjust wording to fit with prior references

Moderator: Now I want to get your thoughts about some information that has already been in the news here. [**Pending earlier Responses]** While NASA still does a lot of work at Plum Brook Station, there are some activities that they no longer do. PBS has two nuclear research reactors, which were built in 1960 and used for experiments to test the effects of radiation on materials used for potential space flight. The Reactor Facility was shut down in 1973 and put into safe, dry storage. All the nuclear fuel was removed at the time the facility was shut down and disposed of offsite. NASA is in the process of decommissioning the two test reactors *(which involves cleaning up facilities and areas of all remaining contamination).*

Was anyone aware that NASA had two reactors at PBS that were shut down in 1973? *[Note tone of responses, facial expressions, etc. that might indicate surprise, concern]*
Tell us about what you've heard? Where did you hear that?
Have they ever been in the news? When? [See if they recall coverage in June or July]

B. Participants' response to fact sheets/displays or portion of newspaper supplement:

Moderator: Now I'd like to ask you to look at some material for me that gives you a little more information on NASA's decommissioning project. We do not have time for you to study these closely, but try to get a feel for what is here. And feel free to write on these to help you remember anything you want to say when we talk about them.

Note: The moderator will pass out the Newspaper Supplement, and ask participants to read page 1 article on Decommissioning Plan approval. The moderator will allow reading time and then ask participants to write down any questions that they feel were not answered in the information provided, encouraging them to take their time to make the list of questions as complete as possible, but assuring people that it is perfectly OK if they do not have any questions. These questions will be collected. [Note: Supplement issued in May and appeared in two papers 30,0000 distribution]

The following line of questions will be posed in a tone that reassures participants they are not being "tested" for reading comprehension.

Tell me what thoughts you had as you read the information?
How would you describe decommissioning and what is being done?
Was the information you read clear? Easy to read?
Is there any information you want that is missing? Such as... (Moderator will write on flip chart)
Are there any questions you have about NASA's plans for decommissioning?

[Moderator will write down questions on a flip chart. Pending time moderator will ask participants to read another article in the supplement on page 4 "Many Safeguards in Place..." and use a similar process.]

Moderator: Now I'd like to read some additional information about NASA's decommissioning project. Again, just take a few minutes to look through it. Is the information in this article useful? Why? Does it answer some of the questions you had? What would you say are the main point(s) in what you read? Is there any further information you'd like to have? [Probe as needed]

V. COMMUNITY RELATIONS/OUTREACH ACTIVITIES (@30 minutes)

Objectives:

- Determine awareness of specific outreach activities
- Obtain participant ideas about credible sources and preferred channels/outreach activities.
- Determine preferred outreach methods, frequency of information.

A. Outreach Activities: (@20 minutes)

Moderator: We have just talked about some of the information available to describe NASA's decommissioning plans and what information you think should be available. Now I'd like to talk about some of the outreach activities that NASA has done over the past 2- 3 years. [Moderator will hand out the postcard magnet listing the different forms of community outreach or, in lieu of that, will refer to article in newspaper supplement which describes our community outreach efforts. Note: Magnet was mailed to approximately 1,350 individuals, local officials, etc in the Erie County area in February 2001.]
Do any of you recall getting something like this in the mail? [moderator will note who has/hasn't and probe accordingly. For those who do recall it probes include:

Do you remember what you thought at the time you received it?

Did you keep it or put it on your refrigerator?
Did you ever try and get further information? If yes, how did you feel about the information you received?

> **Note:** Moderator will not make people who said they received it feel badly for not taking interest or action.

Moderator: Now I'd like to talk about some of the specific outreach activities and sources of information listed. Have any of you ever heard about the decommissioning Website? Did you ever go on line and check it out? What did you think of it? Would you use it again?

[Note: moderator will be careful not to imply that people should have used any of the information sources. For those that did not, but were aware, she will probe as to why they haven't. If someone introduces the telephone hotline at this point, moderator will ask follow up questions, otherwise moderator will introduce it later.]

Moderator: Now let's talk about a few other items. [Probe for each of the following];
Has anyone ever gone to the Community Information Meetings held annually? [probe] What do you think those might be? [Moderator will describe it as a series of displays/exhibits where you could walk around, see things, and pick up information, and ask questions one-on-one of NASA and their team of experts. They have taken place annually since 1999.]

> Based on what you've learned about the project do you think you would be interested in attending something like this in the future? Can you think of any convenient locations?

Does anyone recall receiving a mailing from NASA or the quarterly Newsletter? [Moderator will hold up a copy.]

> **Note:** Copies are available before they leave and that they can sign up for the mailing list- people may say they are interested because they feel they should be. The Newsletter was started in October 2001 and is mailed quarterly to approximately 1350 individuals, organizations and local officials.

Would you be interested in receiving information about the project on a routine basis?
What type of information do you think NASA should include in the newsletters?
Are there particular topics you think should be covered?
> Do you think other people in the community would be interested in this type of information?
>
> Why/why not? **[Moderator will tell them we can add them to mailing list]**

Moderator: At the start of the project, NASA recognized the need for community involvement in this project and so they developed a comprehensive Community Relations Plan based on conducting a number of interviews with local leaders and others. One of the things that plan recommended was to form a Decommissioning Community Workgroup.

What would you expect a Community Workgroup to do?

Is anyone familiar with this workgroup or others like it?

[Pending what was said, read the following explanation]

> In October 1999, NASA established a Community Workgroup for the Decommissioning Project. The Workgroup serves as a vehicle for two-way communication where NASA can communicate information on Decommissioning and Workgroup members and the larger communities have an opportunity to ask questions and express concerns. The Workgroup currently consists of 14 members who are residents of Erie County representing a variety of constituencies including: nearby neighbors of Plum Brook Station, public safety officials, health and education professionals and members of the area's environmental community. Workgroup members are expected to provide project information to their constituents and community members. Workgroup meetings have been held quarterly since November 1999 at various locations. All meetings are open to the public and are advertised in area newspapers and through PSA's on local radio stations.

Moderator: [Probe] **Based on the description you just heard, what do you think about this group as a way to get feedback from the community?** [Probe i.e.; trust and credibility] **Would you be interested in going to a meeting or talking to Workgroup members about their views on the project? What types of things do you think workgroup members should focus on?**

Moderator: [Pending what has been said] **Has any one heard about the toll free telephone information line NASA has for the project? How did you learn about it? Anyone else? Has anyone ever called? Were you satisfied with information provided?** [Pending what's been said] **Last July based on the recommendations of its Community Workgroup NASA set up a telephone information line. That number is: 800–260-3838. It includes options to hear (1) an overview of the decommissioning process; (2) learn about what's happening currently and the upcoming activities; (3) request that you be added to the mailing list; and finally, you can leave a question or comments and NASA is committed to getting back to folks within 24 hours.**

What do you think of a telephone information line as a way of keeping people informed? Do any of you think you might call that line in the future? What would make you call it/not call it?

Finally, the card I handed out also references a Community Information Bank? What do you think that is? [The moderator explains...]

> Is there something in particular you would like to be able to get there or expect would be available there?

Well, we covered a lot, is there anything else you think NASA should be doing to keep people informed?

B: Sources of Information (@10 minutes)

Moderator: we've talked about a number of information and outreach activities that NASA has and a variety of ways to get the information. Based on what you know about NASA or what you've learned tonight, how do you feel about them as a source of information on decommissioning? Would you say they are a credible source?

Are there any other sources you would like to get information from that you think would be credible and knowledgeable? Who would you trust to have the most accurate and reliable information?

Note: After an open-ended question, the moderator will probe specifically how participants would feel about information from or endorsed by:

Community Workgroup
Nuclear Regulatory Commission
Environmental Agency? (federal/state)
Department of Health (local/state)
Elected official(s)? (Who?) [Probe for fire/Erie County Emergency mgt, Boards of Health, etc.]
Community or environmental group (Which?)
Other organizations or people? (Who?)

C. Likelihood of personal action: [Pending time]

Moderator: I know we've covered a lot. Can you think of anything else that might influence how much information you would want and how often you would like to get it?

Moderator: Can you see yourself contacting anyone to ask questions or to obtain more information by using the Website or telephone call-in line?

Is there anything else you can see yourself doing?

VI. WRAP-UP AND CLOSING (@5 minutes)

Objectives:

- Summarize participants' key thoughts and recommendations.
- Thank participants for their time.
- Assure them of NASA's commitment to involving and informing the public and the priority of protecting the public, workers and the environment.
- Provide follow-up contact if they would like that.

Moderator: **We're about out of time now. I'd like to be sure that I have a good sense of your thoughts on all the topics we've covered. First, I'd like you to pull out the piece of paper where you wrote down the grade you gave me earlier for NASA PBS. Now that we have talked more, I would like you to see if anyone wants to change that grade. Please don't erase your old grades; just cross them out if you have changes and put the new one you want to give.**

> **Note:** These will be collected, but it is unlikely that time will allow discussion of changes. Another option pending time is to instead hand out a report card and ask participants to fill out.

Moderator: **Now to wind up, is there anything we haven't covered that you want to tell me to be sure I include in my report about what you want to know and the best ways to get information to you on decommissioning the NASA PBS Reactor Facility?**
If you could tell NASA one thing they should do to keep people informed what would that be?

Thank you very much. NASA is very interested in how to keep you informed about the things you want to know and provide ways for you to be involved. Your advice will be very valuable in guiding their community relations planning.
Moderator will provide:

- Exit instructions; and
- Name(s) of contact(s) with phone number(s) people can call to obtain more information.
- Sign in sheet for mailing list, newsletters, etc.

REPORT CARD

HOW DO YOU PERSONALLY FEEL about NASA Plum Brook Station ON THE FOLLOWING? Please circle the letter grade for each of the following.

A = excellent
B = very good
C = Not great, not bad
D = not very good
E = terrible

1. SAFEGUARDING HEALTH OF RESIDENTS IN YOUR COMMUNITY IN GENERAL?	**A**	**B**	**C**	**D**	**E**
2. SAFEGUARDING THE ENVIRONMENT IN GENERAL?	**A**	**B**	**C**	**D**	**E**
3. COMPLYING WITH ENVIRONMENTAL REGULATIONS?	**A**	**B**	**C**	**D**	**E**
4. KEEPING THE PUBLIC INFORMED ABOUT IMPORTANT INFORMATION?	**A**	**B**	**C**	**D**	**E**
5. BEING A GOOD NEIGHBOR?	**A**	**B**	**C**	**D**	**E**

6. HOW DO YOU THINK OTHER RESIDENTS OF YOUR COMMUNITY WOULD RATE THE SAME THINGS?

____ About the same as I did.

____ Generally lower than I did.

____ Generally higher than I did.

Any comments? Please feel free to use the back of this sheet.

APPENDIX C

Media List

Media Outlets

Sandusky Register
314 West Market Street
Sandusky, Ohio 44870

Vermilion PhotoJournal
P.O. Box 23
630 N. Main Street
Vermillion, Ohio 44089

Toledo Blade
541 North Superior Street
Toledo, Ohio 43660

Morning Journal (Lorain)
News Office
26 Benedict Avenue
Norwalk, OH 44857

Bellevue Gazette
P.O. Box 309
107 N. Sandusky Street
Bellevue, Ohio 44811

Norwalk Reflector
P.O. Box 71
61 East Monroe Street
Norwalk, Ohio 44857

Cleveland Plain Dealer
1801 Superior Avenue
Cleveland, Ohio 44114

The Chronicle Telegram (Elyria)
225 East Avenue
Elyria, OH 44305

WLEC-AM/WMJK-FM/WCPZ-FM
1640 Cleveland Road
Sandusky, Ohio 44870

WLKR-FM/WVAC-FM
202 Old State Road
Norwalk, Ohio 44857

WKFM-FM 96.1
10327 Milan Road
Milan, Ohio 44846

WCPN-FM
Cleveland Public Radio
3100 Chester Avenue – Suite 300
Cleveland, OH 44114-4617

Erie County Cablevision
409 East Market Street
Sandusky, Ohio 44870

Spanish Cultural Network
9712 State Road 113 E
Berlin Heights, OH 44814

APPENDIX D

List of Officials

List of Officials

Mr. Michael Bixler
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2900 Columbus Avenue
Sandusky, OH 44870

Mr. Thomas M. Ferrell, Jr.
Erie County Commissioner
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Sandusky, OH 44870

Mr. Sparky Weilnau
Erie County Commissioner
2900 Columbus Avenue
Sandusky, OH 44870

Ms. Tish Fraley
Erie County Recorder
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Sandusky, OH 44870

The Honorable Bob Taft
Governor
77 South High Street, 30th Floor
Columbus, OH 43266-0601

Mr. Glen A. Ginesi
Huron City Councilman
214 Shawnee Place
Huron, OH 44839

The Honorable Edward L. Asher
Mayor of Huron
1807 Cleveland Road
West Huron, OH 44839

The Honorable Jeffry Armbruster
State Senator , 13th District
Ohio Senate, State House
1st Floor, Rm. 142
Columbus, OH 43215

The Honorable Michael DeWine
US Senator
420 Madison Avenue – Suite 1101
Toledo, OH 43604

The Honorable George V. Voinovich
US Senator
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Columbus, OH 43215

Mr. Robert J. Reer
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Milan, OH 44846

Mr. Steven N. Rockwell
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Mr. Richard A. Maloney
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Milan, OH 44846

The Honorable Michael Bagnato
Mayor of Milan Village
317 S. Main Street
Milan, OH 44846

Mr. Ober Tanigawa
Milan Village Councilman
46 Pawnee Drive
Milan, OH 44846

Robert C. Bickley
Milan Village Councilman
24 Park Street
Milan, OH 44846

Mr. Thomas Sloma
Oxford Township Trustee

Village 4718 Mason Road
Sandusky, OH 44870

Mr. James W. Stewart
Oxford Township Trustee
8719 Ransom Road
Monroeville, OH 44847

Ms. Linda Braun
Perkins Township Clerk
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Mr. Robert J. Kowalk
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2509 Campbell Street
Sandusky, OH 44870

Ms. B. Joyce Brown
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Sandusky, OH 44870

Mr. William A. Mason
Sandusky City Commissioner
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Sandusky, OH 44870

The Honorable Frank M. Valli
Mayor of Sandusky
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Ohio Senate, State House
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Superintendent
Berlin-Milan Board of Education
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Superintendent
EHOVE Career Center
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Milan, OH 44846

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Huron, OH 44839

Mr. Mike Tann
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Huron, OH 44839

APPENDIX E

Organizations

Appendix E

Organizations

Community Organizations

Men's Senior Fellowship, Sandusky

St. Peter's Knights of Columbus, Huron

Huron Rotary Club, Huron

Berlin Kiwanis Club, Berlin Heights

Firelands Red Cross, Sandusky

Commons of Providence, Sandusky

Firelands Audubon Society, Huron

Erie Metroparks, Huron

Erie County Chamber of Commerce, Sandusky .

Huron Chamber of Commerce, Huron

Erie County Convention & Visitors Bureau, Sandusky

Izaak Walton League, Monroeville

Sandusky NAACP, Sandusky

Sandusky Rotary Club, Sandusky

Erie County Conservation League, Huron

Sandusky Kiwanis Club, Sandusky

Erie County Senior Center, Sandusky

Sheldon's Marsh Nature Preserve, Huron

Old Woman Creek Nature Preserve, Huron

Erie County Emergency Management Agency, Perkins.

Sandusky Public Information Office, Sandusky

Erie Huron Community Action Commission, Sandusky

Sandusky Area Safety Council, Sandusky

Ohio Veterans Home, Perkins

Sandusky YMCA, Sandusky

Coupling Nature Reserve, Huron

American Legion Post 83, Sandusky

American Legion Post 527, Milan

VFW Post 2529, Sandusky

VFW Post, Milan

Erie County United Way, Sandusky

Knights of Columbus, Sandusky

Knights of Columbus, Norwalk

League of Women Voters, Huron

Zonta Club, Sandusky

Erie County Ministerial Association, Sandusky

Firelands Historical Society, Sandusky

Center for Cultural Awareness, Sandusky

African American Alternative Center, Sandusky

Elks Lodge, Sandusky

Greater Erie Marketing Group, Sandusky

Bellevue Friends of the Environment, Bellevue

Four County Conservation League, Bellevue

Huron River Greenway Association, Huron

Parent Teacher Organizations

Furry Elementary, Perkins

Meadowlawn Intermediate, Perkins

Briar Middle, Perkins

Perkins High, Perkins

Barker Alternative/Elementary, Sandusky

Campbell Elementary, Sandusky

Hancock Elementary, Sandusky

Madison Elementary, Sandusky

Mills Elementary, Sandusky

Monroe Elementary, Sandusky

Ontario Elementary, Sandusky

Osborne Elementary, Sandusky

Venice Heights Elementary, Sandusky

Adams Junior High, Sandusky

Jackson Junior High, Sandusky

Libraries

Berlin-Milan

Sandusky

Huron

BGSU Firelands College

Ohio Business College

Vermilion

Churches

St. Stephen's AME, Sandusky

St. John's United Church of Christ, Milan

Emmanuel Temple Pentecostal, Sandusky

St. John's Lutheran, Perkins

New Covenant Lighthouse, Milan

New Life Church, Perkins

Saint Peter's Catholic, Huron

Ebenezer Baptist, Sandusky

Zion Lutheran, Sandusky

Immaculate Conception Catholic, Sandusky

Saints Peter & Paul Catholic, Sandusky

Holy Angels Catholic, Sandusky

St. Thomas Catholic, Sandusky

St. Mary's Catholic, Sandusky

Zion Lutheran, Huron

Second Baptist, Sandusky

Trinity United Methodist, Sandusky

The Chapel, Sandusky

APPENDIX F

Key Contact List

APPENDIX F

Key Contact List

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Vernon William Wessel
Director for Assurance Technologies
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APPENDIX G

Glossary of Terms

&

List of Acronyms

APPENDIX G

Glossary of Terms and List of Acronyms

Activation – When a metal is exposed to radiation, its composition can change by picking up additional neutrons and becoming a totally different isotope that is radioactively unstable.

Activation Analysis – is done to determine the type and amount of isotopes present in material located close enough to the core to have become activated through normal operation of the reactor. An activation analysis can be done by taking actual physical samples for laboratory analysis or by computer-generated modeling.

ALARA – As Low As Reasonably Achievable – a safety standard that allows the lowest level of radiation exposure by using best work practices.

Alpha – radiation made up of particles that include two neutrons and two protons each. Alpha radiation travels only a few inches in air and can be blocked by a sheet of paper or skin.

B-25 box – a standard container for transporting Class A, solid, low-level radioactive waste.

Background radiation – The radiation levels that occur naturally (from other than man-made sources) in the environment. Naturally occurring radiation comes from sources such as the sun (cosmic rays), radon from the ground, elements in the soil, water and food.

Beryllium plates – metal shields located inside reactor core. The beryllium is in a form that does not pose a threat of beryllious.

Beta – radiation particles that are smaller but have more energy than alpha. Beta radiation can travel up to 12 to 15 feet in air and can penetrate skin. About an inch of shielding – glass, wood, plastic or metal can block beta particles.

CFR – Code of Federal Regulations

Cask – standard shipping container certified by the NRC to transport Class B, solid, low-level radioactive waste.

Canal– alleyway that separates quadrants within the reactor vessel.

Community Information Bank – location for Decommissioning documents and reference materials made available for public review by NASA at BGSU Firelands Library.

Community Information Session – annual forum where community members can talk directly with the Decommissioning Team about any aspect of the project.

Community Relations Plan – document which describes citizen and stakeholder information needs and outlines information and outreach activities.

Community Workgroup- A group of local citizens who meet regularly to receive information from NASA and to provide feedback about decommissioning the Reactor Facility at Plum Brook Station.

Containers Type A – containers that must pass tests simulating normal transportation conditions such as pressure and vibration in which very low levels of radioactive waste can be packaged.

Type B – engineered casks that may have double walls of thick steel and heavy lead, which must undergo demanding test simulating both normal transportation and accident conditions.

Containment vessel – the structure or vessel that encloses the components of the reactor coolant pressure boundary, and serves as an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment.

Critical lift review – a comprehensive look at the potential risks and advanced planning to minimize risks associated with crane lifts at the decommissioning site. The review included testing the crane over and above a normal weight lift, and examining the path and area in which lift will take place. The review includes training the operator, as well as inspection, testing and certification of all rigging and materials involved in the planned lift.

Decay – radioactive atoms undergo a natural process that occurs when an atom spontaneously gives off its extra energy.

Decommission – to remove a facility or site safely from service and reduce residual radioactivity to a level that permits--

(1) Release of the property for unrestricted use and termination of the license; or
(2) Release of the property under restricted conditions and termination of the license.

Decommissioning Plan – plan outlining the procedure for decommissioning a reactor facility in accordance with federal regulations, that must demonstrate to the Nuclear Regulatory Commission reviewers that plans, personnel, policies and procedures have been thoroughly considered for the duration of decommissioning which must include:

(i) The choice of the alternative for decommissioning with a description of activities involved.
(ii) A description of the controls and limits on procedures and equipment to protect occupational and public health and safety;
(iii) A description of the planned final radiation survey;
(iv) An updated cost estimate for the chosen alternative for decommissioning; and
(v) A description of technical specifications, quality assurance provisions and physical security plan provisions in place during decommissioning.

Decontamination - To rid structures, equipment and the site of residual radioactivity or other contamination through onsite treatment, or removing material for disposal offsite.

Dismantle - The act of taking apart equipment and structures in order to dispose of properly.

Direct Radiation – refers to type and amount of isotopes present, and measures how much energy is being emitted.

Dose – refers to the amount of radiation energy that is actually absorbed by the human body.

Dosimeter – Commonly referred to as a film badge, this device is worn on a person's body and measures accumulated radiation over a period of time. They are mandatory at facilities that use radioactive materials.

DOE – Department of Energy

DOT – Department of Transportation

EA – Environmental Assessment – A requirement of the National Environmental Policy Act (NEPA) which describes a federal agency's proposed actions or activities that may possibly have a significant impact on the human environment. An EA concisely documents possible environmental impacts of the proposed action and determines measures to reduce or eliminate impacts. It is also used to support a decision whether or not to prepare an Environmental Impact Statement.

EIS – Environmental Impact Statement – Triggered by results of an Environmental Assessment, an Environmental Impact Statement comprehensively documents the proposed actions or activities expected to have a significant impact on the human environment. An EIS describes the environmental impacts of the proposed action, the no-action alternative, and other reasonable alternatives to cleanup. The process culminates in a decision that is documented in a Record Of Decision (ROD) in the Federal Register.

Environmental Baseline Survey – a study that looks at all possible non-radiological contamination within the Reactor Facility site area.

Emergency Response Plan – Prepared by a Local Emergency Planning Committee (LEPC), this plan outlines specific procedures to be followed, as well as roles and responsibilities of personnel, in case of a hazardous materials release.

EPA – Environmental Protection Agency

Exposure – Internal exposure occurs when radioactive material (usually alpha or beta particles) is taken into the body by eating, drinking, breathing, or through the breaks in the skin. External exposure occurs when radiation (usually x-rays or gamma rays) penetrates the body.

Film badge – see dosimeter

Fixed equipment – components that remain fastened in place or attached to the structure.

Flange – the rim that fastens the access port closure to the reactor tank.

FONSI – Finding of No Significant Impact from an environmental assessment is posted in the Federal Register indicating that an EIS is not required under the National Environmental Policy Act.

Geiger Counter - a hand-held instrument that detects the presence and intensity of radiation from a radioactive substance.

GRC – NASA's Glenn Research Center

Half-life – The time required for half of any quantity of identical radioactive atoms to undergo radioactive decay, so that half of the atoms in the substance are no longer emitting radiation and are no longer considered to be radioactive.

Hot cells – areas (like workshops) where experiments were conducted during the Reactor Facility's operational lifetime.

Hot dry storage – a 25-foot-deep vault area in the reactor where more irradiated (meaning the higher end of LLRW) equipment was stored.

Internals – equipment used for operating the reactor that is still located within the reactor tank vessel.

Inventory – an itemized list or catalog of property remaining within the Reactor Facility

Label – information placed on outside of a package for quick identification of the type and radioactive level of material being stored or transported.

LEPC – Local Emergency Planning Commission.

Liner – packaging that is used to consolidate solid, dry LLRW that will eventually be placed inside cask for shipping.

LLRW - Low-Level Radioactive Waste **-** a by-product of processes that use radioactive materials. It can include general trash, protective clothing and gloves, test tubes and vials, machinery parts, filters and other items that may have become contaminated by radioactive particles. It is not spent nuclear fuel or high-level radioactive waste.

Loose contamination – radioactive "dust" on the surface of equipment detected by using a swipe sample that will be analyzed by a certified laboratory.

Loose equipment – components that are not fastened in place or attached to the structure.

Manifest – documentation that accompanies and traces waste shipments from generator to disposal. It describes the type of waste, volume, level of radioactivity, other waste characteristics and its ultimate destination.

Monitoring – Personal monitoring – tracking employees' radiation exposure on a regular basis using dosimetry (employees wearing film badges) and through routine urinalysis and nasal swabs.

Environmental monitoring– sampling of environment (air, water, soil, vegetation, animals) that is compared with baseline samples to see if any changes have occurred.

NEPA – National Environmental Policy Act – requires federal agencies to consider the environmental impacts of major federal projects or decisions, to share information with the public; to identify and assess reasonable alternatives; and to coordinate efforts with other planning and environmental reviews taking place.

No-Action Alternative – included in an alternatives evaluation, the no-action alternative would continue existing conditions without any modifications.

NOI – Notice of Intent outlining significant impacts from an Environmental Assessment is posted in the Federal Register requiring an Environmental Impact Statement to be prepared.

NRC – Nuclear Regulatory Commission

ODH – Ohio Department of Health

OEPA – Ohio Environmental Protection Agency

OSHA – Federal Occupational Safety and Health Administration

PBRF – Plum Brook Reactor Facility

PBS – Plum Brook Station

Part 61 Characterization – sampling and analysis to determine the appropriate packaging for safely shipping waste, which includes direct radiation readings on each piece of equipment. Swipe samples of loose contamination are sent to offsite laboratories to determine what specific radioactive isotopes are present and how much energy is coming from them.

Placard – signs posted on outside of trucks for quick identification of the type of material being transported.

Pre-decommissioning – work allowed under existing reactor license which includes preparing the work area to minimize obstacles to protect workers from accidents and injury; to enable workers to commence decommissioning once approval of the Decommissioning Plan is received; gives assurance that the team is fully in place and that all plans and procedures are functioning well.

Quadrant – pie shaped areas, (roughly 25-feet deep x 20-feet wide x 40-feet long), which were filled with water and served to protect workers and the environment from the radiation contained in the reactor vessel core.

Radiation – the excess energy an atom gives off or emits to achieve stability. When a radionuclide gives up its extra energy, that energy is called ionizing radiation. There are three kinds of radiation (or isotopes) emitted by radioactive elements – alpha, beta, and gamma.

Radioactivity – a condition of an element. It is the emission of some particles by some atoms when their unstable nuclei disintegrate. Radioactivity is the amount of radioactive substance present.

Rem or mrem – a unit of measurement that translates the energy measured into the dose or equivalent dose that a person receives. A mrem (millirem) is one-thousandth of a rem.

Reactor core – the innermost portion of the reactor that contained the highest level of radiation.

Reactor vessel – large concrete encased tank that shielded workers and the environment from radiation from the reactor core.

Reprocessing facility – companies that specialize in recycling and reclamation of lightly contaminated metals to reduce the volume of LLRW.

Research reactor or non-power – nuclear reactors that were used for experimentation, and not used to generate electricity for public consumption.

Retention basin – was used for large volumes of water that resulted from operations. Water remained in the retention basin to be treated, allowed to decay, or verified to be within acceptable limits to discharge.

ROD – Record of Decision

Shrapnel shield – the twenty-ton coverings on the reactor vessel tank that provides protection from radiation from the reactor core. The reactor has three shrapnel shields.

Segmentation – the process of reducing the whole into pieces to minimize the volume of reactor pieces for optimum fit inside shipping packages.

Survey – using detection devices to take direct radiation readings of items inside reactor.

Swipe sample – using a cloth to collect surface "dust" to send to a laboratory for analysis of loose contamination.

Unrestricted Use – the status given by the NRC to a decommissioned site with residual radiation levels at or below background levels and is considered safe for any purpose.

USACE - U.S. Army Corps of Engineers

USEPA – U.S. Environmental Protection Agency

USNRC – U. S. Nuclear Regulatory Commission

WEMS -Waste Effluent Monitoring System- before water was discharged it passed detectors that were set to one-tenth of the regulatory limits so that a release offsite above the limits would be prevented.

APPENDIX H

List of

Community Workgroup Members

Community Workgroup Members
(November 2002)

John Blakeman, environmental consultant and retired biology teacher

Janet Bohne, senior medical research scientist

Mark Bohne, engineer and safety consultant

Steve Casali, Director - Erie County Board of Health

Chris Gasteier, Principal - Perkins High School (and NASA neighbor)

Richard Graham, Vice President - Ohio Division, Izaak Walton League

Larry Pitts, Superintendent - Perkins Board of Education, Perkins Township

Ralph Roshong, Superintendent - Kelleys Island Board of Education (and NASA neighbor)

Robert Speers, Ph.D., P.E., Associate Professor Emeritus, BGSU Firelands

David Stein, engineer and former Sandusky City Commissioner

Stan Taylor, Founder - God's Little Critters Wildlife Refuge

Bill Walker, Director - Erie County Emergency Management Agency

Lantana Wood, veterinary assistant and environmentalist